

Tagged Tank Blocks for the Detection of Tank
Material in Glass, by W. Jehn.

GERMAN, per, Glastechnische Berichte, Vol XXXII,
No 3, 1959, pp 103-106.

ATS-60N55G

Sci

Mar 62

Vol VII, No 2

62-16142

Scholze, H.
THE TRANSMISSION OF GLASSES IN THE NEAR
INFRARED AT TEMPERATURES UP TO FREEZING
POINT (Die Durchlässigkeit von Gläsern in Nahern
Ultrarot bei Temperaturen bis zum Einfrierbereich).
[1962] [15]p. (foreign text included) 17 refs.
Order from SLA \$1.60

62-16142

Trans. of Glastechnische Berichte (West Germany)
1959, v. 32K, p. VII/1-VII/5.

DESCRIPTORS: *Glass, Optics, Transmission, Infra-
red radiation, *Infrared spectroscopy, *Temperature,
Hydroxides, Silicon compounds.

The transmission of glasses in the near infra-red de-
pends on the bands at $2.7 - 2.9 \mu$ due to free OH-
groups, and of bands at $3.3 - 3.9 \mu$ and 4.25μ due to
bound OH-groups. The intensity of radiation in these
bands decreases with rising temperature. Whereas
(Materials--Ceramics, TT, v. 8, no. 7) (over)

- I. Scholze, H.
- II. Title: International Congress -
on Glass (no. 5)
- III. Title: Internationaler G
Glaskongress (no. 5)

Office of Technical Services

61-10517

Grollier-Baron, Th. and Gardiol, M.
THE USE OF MICROSCOPIC EXAMINATION UNDER
REFLECTED LIGHT IN THE STUDY OF ELECTRO-
CAST REFRACTORIES [L'Utilisation de l'Examen
Microscopique en Lumière Réfléchie pour l'Etude des
Réfractaires Electrofondus]. [1960] [13]p. (Eng. ab-
stract omitted).
Order from SLA mi\$2.40, ph\$3.30 61-10517

Trans. of Glastechnische Berichte (West Germany)
1959, v. 32K, no. IV, p. 7-11.

151452

(Materials--Refractories, TT, v. 5, no. 8)

1. Refractory materials--
Microstructure
2. Refractory materials--
Casting
- I. Grollier-Baron, T.
- II. Gardiol, M.
- III. Title: International
Congress on Glass (no. 5)

Office of Technical Services

Trier, W.
VISCOSITY DISTRIBUTION AND FLOW OF GLASS IN
PREFORMERS. [1962] 33p. 20 refs.
Order from SLA \$3.60

62-14252

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1959, v. 32K, p. II/17-II/25.

DESCRIPTORS: *Glass, *Viscosity, Distribution,
Molding, Bubbles, Deformation, Cooling, Configuration,
Liquids, Solids, Melting, Drawing (Machine processing),
Production, Compressed air, Blowers, *Ceramic
materials.

An apparatus for measuring the viscosity distribution
in the glass in a preformer is described. A fine steel
needle forced through the glass leaves behind a fine
bubble trace of well-defined shape in the glass. The
viscosity distribution can be derived from the deforma-
(Materials--Ceramics, TT, v. 9, no. 5) (over)

62-14252

- I. Trier, W.
- II. Title: International
Congress on Glass (no. 5)
- III. Title: Internationaler
Glaskongress (no. 5)

Office of Technical Services

Patel, M. Raymond.
CONTRIBUTION TO THE DETERMINATION OF
COEFFICIENTS OF SIMILITUDE OF MODELS OF
GLASS FURNACES, FOR STUDYING CURRENTS IN
GLASS. [1960] 12p. (Eng. abstract omitted) 6 refs.
Order from SLA ml\$2.40, ph\$3.30 61-10515

Trans. of Glaserische Berichte (West Germany) [1959]
v. 32K, no. IV, p. 30-34.

151,436

(Materials--Ceramics, TT, v. 5, no. 8)

61-10515

1. Furnaces--Model test results
2. Glass--Melting
1. Patel, M. R.
- II. Title: International Congress on Glass (no. 5)

Office of Technical Services

61-10516

Léger, L.
DIMENSIONAL ANALYSIS AND ITS APPLICATION
TO PROBLEMS OF GLASS TECHNOLOGY (L'Analyse
Dimensionnelle (Application à des Problèmes de
Technologie Verrière)). [1960] [35]p. 8 refs.
Order from SLA mi\$3.00, pi\$6.30 61-10516

Trans. of Glastechnische Berichte (West Germany)
1959, v. 32X, no. IV, p. 34-37.

151437

1. Glass--Melting
2. Furnaces--Model test results
3. Title: Dimensional analysis
- I. Léger, L.
- II. Title: International Congress on Glass (no. 5)

Office of Technical Services

(Materials--Ceramics, TT, v. 5, no. 8)

Investigation and Appraisal of Glass Melting
Tanks on the Basis of Energy Balances, by
I. Huhmann-Kotz, 6 pp.

GERMAN, per, Glastechnische Berichte,
Vol XXXII, 1959, pp 47-53.

CSERO

Sci - Phys
Nov 61

174,381

Merker, Ludwig and Wondratschek, Hans.
SOME PHYSICAL PROPERTIES OF LEAD SILICATE
GLASSES WITH A HIGH SULFATE CONTENT
(Einige Physikalische Eigenschaften von Bleisilikat-
Gläsern mit Hohem Sulfatgehalt). [1962] [17]p. (for-
eign text included) 12 refs.
Order from SLA \$1.60

62-16138

Trans. of Glastechn[ische] Berichte (West Germany)
1959, v. 32, no. 2, p. 54-58.

DESCRIPTORS: *Glass, *Lead compounds, *Sili-
cates, *Sulfates, Chemical analysis, Physical prop-
erties, Production.

The density, thermal expansion, transformation
point, and softening temperature, surface tension and
refraction of light are measured on lead silicate
glasses with a high sulfate content and compared with
(Materials--Ceramics, TT, v. 8, no. 6) (over)

62-16138

I. Merker, L.
II. Wondratschek, H.

Office of Technical Services

Gailhbaud, J.
HEAT BALANCE OF A GLASS-MELTING FURNACE
AND RECENT DEVELOPMENTS (Bilan Thermique d'un
Four de Verrerie et Developpements Recents). [1962]
[21]p. (foreign text included) 10 refs.
Order from SLA \$1.60

62-10931

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1959, v. 32K, p. II/49-II/53.

DESCRIPTORS: *Glass, *Melting, *Heat transfer,
Design, Fuel consumption, Economics, Heat exchangers

(Materials--Ceramics, TT, v. 9, no. 1)

62-10931

- I. Title: Tank furnaces
- I. Gailhbaud, J.
- II. Title: International Congress
on Glass (no. 5)
- III. Title: Internationaler
Glaskongress (no. 5)

Office of Technical Services

Malarme, Louis.
SODIUM CARBONATE HYDRATION PHENOMENA
INSIDE THE BATCH: HOW TO AVOID SEGREGATION
OF THE CONSTITUENTS (Recherches sur les Phenom-
enes d'Hydratation du Carbonate de Soude au Sein de
la Composition, en Vue d'Eviter la Segregation de ses
Constituants). [1962] [64]p. (foreign text included)
8 refs.

Order from SLA \$6. 60

62-14506

Trans. of Glastechnische Berichte (West Germany)
1959, v. 32K, p. II/57-II/73.

DESCRIPTORS: *Sodium compounds, *Carbonates,
*Glass, Manufacturing methods, Liquids, Mixtures,
Solubility, Sand, Dolomite, Calcite, Feldspar, Sulfates,
Particles, Moisture, Transformations.

(Materials--Ceramics, TT, v. 8, no. 3)

62-14506

- I. Malarme, L.
- II. Title: How . . .
- III. Title: International
Congress on Glass (no. 5)
- IV. Title: Internationaler
Glaskongress (no. 5)

Office of Technical Services

Tagged Tank Blocks for the Detection of Tank
Material in Glass, by W. Jahn.

GERMAN, per, Glastechnische Berichte, Vol XXXII,
No 3, 1959, pp 103-106.

ATB-608553

Sci

Mar 62

Vol VII, No 2

189,532

62-16399

Weber-Klein, Paul.
MEASURING AND CONTROL METHODS IN GLASS
WORKS. I. UNDERSTANDING MEASUREMENT AND
CONTROL MAGNITUDES (Mess- und Regeltechnik in
Glashütten. I. Erfassung von Mess- und Regelgrös-
sen). [1962] [71]p. (foreign text included). 62-16399
Order from SLA \$7.60

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1959, v. 32, no. 3, p. 107-120.

DESCRIPTORS: *Glass, Industrial plants, Measure-
ment, Control, Instrumentation, Melting, Combustion
chambers, Temperature control.

(Materials--Ceramics, IT, v. 8, no. 6)

I. Weber-Klein, P.
II. Title: Understanding ...

Office of Technical Services

Unger, Leopold.

DETERMINATION OF THE HEAT CONTENT AND
THE AVERAGE TEMPERATURE OF BOTTLES
DURING THE SHAPING PROCESS (Bestimmung des
Wärmeinhaltes und der Mittleren Temperatur von
Flaschen Während des Formgebungsprozesses).
[1960] [20]p. 4 refs.

Order from SLA mi\$2.40, ph\$3.30

61-10504

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1959, v. 32, no. 4 [p. 155-157].

A calorimeter was developed which permits to deter-
mine the heat content of the glass to be processed,
and meets the more rugged operational conditions
without having to incur an important loss in precision.
Measurements were made with the calorimeter at
various types of glass and various machines. It was
found that the escape of heat in the preliminary shape
is almost the same with all types of machines,
whereas the release of heat in the finished shape is
(Materials--Ceramics, TT, v. 5, no. 8) (over)

61-10504

1. Glass--Temperature
1. Unger, L.

151442

Office of Technical Services

62-16398

Weber-Klein, Paul.
MEASURING AND CONTROL METHODS IN GLASS
WORKS. II. MEASURING AND CONTROL DEVICES.
(Mess- und Regelungstechnik in Glashütten. II. Geräte
zur Messung und Regelung). [1962] [74]p. (foreign
text included) 80 refs.
Order from SLA \$7.60

62-16398

Trans. of Glastechnische Berichte (West Germany)
1959, v. 32, no. 4, p. 158-172.

DESCRIPTORS: *Glass, Industrial plants, Measure-
ment, Control, Instrumentation, Melting, Tempera-
ture control, Combustion chambers.

(See also 62-16399)

(Materials--Ceramics, TT, v. 8, no. 6)

- I. Weber-Klein, P.
- II. Title: Measuring ...

Office of Technical Services

61-10519

Gilard, P. and Gilboux, G.
RELATIONSHIP BETWEEN THE VARIOUS TEXTURES
OF FUSED-CAST REFRACTORIES AND THEIR
RESISTANCE TO ATTACK BY GLASS [Relation entre
Differentes Textures d'un Bloc Refractaire Electrofondu
et la Resistance a la Corrosion par le Verre]. [1960]
[16]p. (Eng. abstract omitted) 10 refs.
Order from SLA mi\$2.40, ph\$3.30 61-10519

Trans. of Glastechnische Berichte (West Germany)
1959, v. 32K, no. IV, p. 1-7.

(Unannounced)

1. Refractory materials--
Casting
2. Glass--Corrosive effects
- I. Gilard, P.
- II. Gilboux, G.
- III. Title: International
Congress on Glass
(no. 5)

Office of Technical Services

61-10518

Gottardi, V. and Lichardi, B.
REACTION RATES AND MECHANISM IN THE SYS-
TEMS $\text{Na}_2\text{O}-\text{B}_2\text{O}_3$ AND $\text{Na}_2\text{O}-\text{B}_2\text{O}_3-\text{SiO}_2$ (Vitesse et
Mecanisme de Reaction dans les Systemes $\text{Na}_2\text{O}-\text{B}_2\text{O}_3$
et $\text{Na}_2\text{O}-\text{B}_2\text{O}_3-\text{SiO}_2$). [1960] [20]p. 43 refs.
Order from SLA mi\$2.70, ph\$4.80 61-10518

Trans. of Glastechnische Berichte (West Germany)
1959, v. 32K, no. V, p. 8-15.

151788

(Materials--Ceramics, TT, v. 5, no. 9)

1. Boron oxides--Chemical reactions
 2. Sodium oxides--Chemical reactions
 3. Silicon dioxide--Chemical reactions
 4. Glass--Phase studies
- I. Gottardi, V.
 - II. Lichardi, B.
 - III. Title: International Congress on Glass (no. 5)

Office of Technical Services

61-10510

Dietzel, Adolf and Flörke, Otto W.
THE ACTION OF SULFATE IN THE MELTING
PROCESS (Die Wirkung von Sulfat beim Einschmel-
zvorgang). [1960] [12]p. 12 refs.
Order from SLA mi\$2.40, ph\$3.30 61-10510

Trans. of Glastechnische Berichte (West Germany)
1959, v. 32, no. 5, p. 181-185.

Comparative melts of sulfate-free and sulfate-contain-
ing glasses were made. Observations with the thermal
microscope showed that the sulfate containing batches
began to melt sooner and that the residual quartz
grains were more uniformly dispersed than with the
corresponding sulfate free batches. In which the sand
was concentrated at the melt surface and formed the
skin as described in 1914 by Gelstharp and Parkinson.
These phenomena could be readily explained with the
help of ideas developed according to which the sulfate
prevents flotation of the batch residuals. (Author) (A
lecture given at the Symposium on Glass Melting of
(Materials--Ceramics, TT, v. 5, no. 8) (over)

1. Glass--Melting
2. Sulfates--Chemical effects
- I. Dietzel, A.
- II. Flörke, O. W.

151448

Office of Technical Services

62-14249

Huhmann-Kotz, Ilse.
THE TRANSMISSION OF ENERGY IN GLASS BATCHES. I. Huhmann-Kotz, I.
[1962] [18]p. (10 figs. omitted) 15 refs.
Order from SLA \$1.60 62-14249

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1959, v. 32, no. 5, p. 189-197.

DESCRIPTORS: *Glass, Thermal conductivity, Thermal
radiation, Heat transfer, *Melting, Temperature,
Flames, Tanks, Energy, Functions, Transmission,
Thermodynamics, Analysis of variance, Production.

An introductory survey of the physical processes
taking place in the batch is given, and the significance
of restricting the investigation to thermal conduction
and radiation is discussed. The physical basis of
transfer by radiation is discussed in general terms and
the most important general results of application to
(Materials--Ceramics, TT, v. 9, no. 5) (over)

Office of Technical Services

62-10944

Schmidt, Kurt.

GLASS TANKS AND THROATS (Wannenbecken und Durchlass von Glasschmelzöfen). Paper presented at HVG Colloquium on Glass Melting Furnaces, Frankfurt a. M., 23 Oct 58. [1962] [17]p. (foreign text included). Order from SLA \$1.60 62-10944

Trans. of Glastechnische Berichte (West Germany) 1959, v. 32, no. 6, p. 217-221.

DESCRIPTORS: *Glass, *Melting, Tanks, Oil-burning furnaces, Fuel consumption, Operation, Construction.

The influence of the length-width ratio, of the bath depth and of the throat construction on the operating behavior of various types of tanks is discussed on the basis of practical experiences. Standard dimensions have been developed in the course of time and proved expedient. Operating data of various tanks and the dimensions of the throats used are given on the basis of several examples. (Author)

I. Schmidt, K.

II. Title: HVG Colloquium ...

(Materials--Ceramics, TT.
v. 8, no. 6)
Office of Technical Services

61-10506

Meister, Rudolf.
GAS FLOW AND PRESSURE DISTRIBUTION IN
GLASS FUSING FURNACES (Gasströmung und
Druckverteilung in Glasschmelzöfen). [1960] [36]p.
9 refs.

Order from SLA ml\$3.00, ph\$6.90 61-10506

Trans. of Glasstechnische Berichte. (West Germany)
1959, v. 32, no. 6, p. 221-231.

Under certain conditions specifically occurring in the
glass industry a not inconsiderable change in the
quantities of gas flowing in the furnace channels and
in the upper furnace should be anticipated as a con-
sequence of an unfavorable pattern of furnace pres-
sure. (Enlarged version of a lecture held before the
32nd Symposium on Glass Technology, Freudenstadt,
Germany, May 21, 1958)

(Materials--Ceramics, TT, v. 3, no. 8)

1. Gas flow--Analysis
 2. Glass--Products
 3. Furnaces--Pressure
distribution
1. : Meister, R.

151444

Office of Technical Services

62-10932

Greschat, K. -H.
HEATING AND HEAT-REGENERATION WITH GLASS
MELTING TANKS (Beheizung und Wärmeregeneration
bei Glasschmelzwannen). Paper presented at HVG
Colloquium on Glass Melting Furnaces, Frankfurt a. M.
23 Oct 58. [1962] [33]p. (foreign text included) 16 refs.
Order from SLA \$3.60 62-10932

Trans. of Glastechnische Berichte (West Germany)
1959, v. 32, no. 6, p. 231-239.

DESCRIPTORS: *Glass, Melting. *Oil-burning fur-
naces, Refractory materials, Construction, Fuel
oils, Heating, Heat exchangers, Tanks.

(Materials--Ceramics, TT, v. 8, no. 6)

I. Greschat, K. -H.
II. Title: HVG Colloquium...

Office of Technical Services

62-14248

Becker, Kurt.
WASTE HEAT BOILERS FOR GLASS MELTING
TANKS. [1962] 7p. (13 figs. omitted).
Order from SLA \$1.10

62-14248

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1959, v. 32, no. 6, p. 243-246.

DESCRIPTORS: *Glass, Melting, *Tanks, *Boilers,
Heat transfer, Design.

(Materials--Ceramics, TT, v. 8, no. 4)

I. Becker, K.

Office of Technical Services

Wickert, Helmut.
SPECIAL TYPES OF GLASS MELTING FURNACES.
[1962] 10p. (9 figs. omitted) 14 refs.
Order from SLA \$1.10

62-14246

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1959, v. 32, no. 6, p. 247-251.

DESCRIPTORS: *Glass, *Melting, Open hearth furnaces,
Electric furnaces, Rotary furnaces, Construction,
Design, Economics, Tanks, Refractory materials.

(Materials--Ceramics, TT, v. 9, no. 5)

62-14246

1. Title: Glass furnaces
1. Wickert, H.

Office of Technical Services

61-10503

Wondratschek, Hans.
A PROCESS FOR THE SIMULTANEOUS DETERMINATION OF VISCOSITY AND SURFACE TENSION IN GLASS AT RELATIVELY LOW TEMPERATURES (Ein Verfahren zur Gleichzeitigen Bestimmung von Zähigkeit und Oberflächenspannung an Gläsern bei Relativ Niedrigen Temperaturen). [1960] [8]p. 2 refs. Order from SLA mi\$1.80, ph\$1.80 61-10503

Trans. of Glastechnische Berichte (West Germany) 1959, v. 32, no. 7, p. 276-278.

The theory is developed for a process described by N. M. Parikh (J. Am. Ceram. Soc. 41: 18-22, 1950) for the determination of the surface tension in glass, and it is shown that the viscosity can be ascertained as an additional result of the measurement. (Author)

1. Glass--Viscosity
2. Glass--Surface tension
1. Wondratschek, H.

151441

Office of Technical Services

(Materials--Ceramics, TT, v. 3, no. 8)

Sevels, J. M.
 NETWORK DEFECTS IN CRYSTALLINE AND
 GLASSY SILICA (Netzwerkfehler in Kristallinischem
 und Glasigem SiO₂). Paper from Glass Technical
 Meeting (no. 33) Hamburg, 18 Mar 59. [1960] [27]p.
 (foreign text included) 20 refs.
 Order from SLA ml\$2.70, ph\$4.80 61-10505

Trans. of Glastechnische Berichte (West Germany)
 1959, v. 32, no. 8, p. 307-313.

The combination of dielectric loss measurements at
 low temperatures, optical absorption measurements
 and paramagnetic resonance measurements is de-
 scribed by which it is possible to recognize and
 determine a number of network defects in glasses and
 quartz crystals.

(Materials--Ceramics, TT, v. 5, no. 8)

61-10505

1. Quartz crystals--Crystal structure
2. Glass--Crystal structure
1. Sevels, J. M.

151443

Office of Technical Services

Thermo-Chemical Studies in the System
 $\text{Na}_2\text{O-SiO}_2$. Part I, by C. Hummel, H.
Schwiete.

GERMAN, per, Glastechnische Berichte,
Vol XXXII, No 8, 1959, pp 327-335.

CSIRO

Sci - Chem, Engg
Apr 62

191,427

Dietzel, Adolf and Coenen, Matthias.
CONNECTION BETWEEN WETTABILITY BY GLASS
MELTS AND ELECTROCHEMICAL PROPERTIES OF
THE NOBLE METALS. Paper presented at Glass
Technical [meeting] (no. 32) Freudenstadt, 21 May 58.
[1960] [18] p. 20 refs.

Order from SLA ml\$2.40, ph\$3.30 61-10509

Trans. of Glasstechnische Berichte (West Germany)
1959, v. 32, no. 9, p. 357-361.

Alloys of beryllium-platinum, gold-platinum and
platinum-rhodium were studied. The wettability was
measured by taking the angle of contact of molten
sodium-lime glass on sheets of platinum alloys.
Measurements were made of the anodic overvoltage in
1 N H₂SO₄, and the emf as O-electrode. The diffusion
of O-atoms appeared as the reason for the connection
between wettability and electrochemical properties.
(See also 60-16252)

(Chemistry--Physical, TT, v. 3, no. 9)

61-10509

1. Electrochemistry
2. Diffusion--Theory
3. Glass--Temperature factors
4. Platinum alloys--
Temperature factors

- I. Dietzel, A.
- II. Coenen, M.

152103

Office of Technical Services

62-14244

Kröger, Carl and Ellegehausen, Hans.
THE THERMAL CONDUCTIVITY OF THE MELTING
GLASS BATCH. [1962] 23p. (16 figs. omitted) 16 refs.
Order from SLA \$2.60 62-14244

I. Kröger, C.
II. Ellegehausen, H.

Trans. of Glastechnische Berichte (West Germany) 1959,
v. 32, no. 9, p. 362-373.

DESCRIPTORS: *Glass, Melting, *Thermal conductivity,
Manufacturing methods.

(Materials--Ceramics, TT, v. 9, no. 1)

Office of Technical Services

Bhattacharya, A. and Wille, R.
INFLUENCE OF NEEDLES ON FREE JET BLAST
COOLING OF SHORT CYLINDERS. [1961] 7p.
Order from ATS \$9.35 ATS-68N52G

Trans. of Glastechnische Ber[ichte] (West Germany)
1959, v. 32, no. 10, p. 397-401

DESCRIPTORS: *Cylindrical bodies, Cooling

(Physics--Thermodynamics, TT, v. 6, no. 6)

61-25033

- I. Bhattacharya, A.
- II. Wille, R.
- III. ATS-68N52G
- IV. Associated Technical
Services, Inc., East
Orange, N. J.

SLA 62-14245

176704

Office of Technical Services

61-10511

Deeg, Emil.
CALCULATION OF THE TEMPERATURE DISTRIBUTION IN PARISON MOLD AND GLASS OBJECT IN MACHINES FORMING HOLLOW GLASSWARE (Berechnung der Temperaturverteilung in Vorform und Kulbel bei Hohlglasmaschinen). (1960) [39]p. 25 refs. Order from SLA mi\$3.00, ph\$6.30 61-10511

1. Glass--Processing
1. Deeg, E.

151448

Trans. of Glastechnische Berichte (West Germany) 1959, v. 32, no. 10, p. 402-413.

The space-time temperature distribution which appears during the preparation of glass objects in the parison mold and in the glass is mathematically ascertained. It is assumed that a thin heat-insulating layer can form between the hot glass and the inner wall of the mold. The relation is shown between the temperature distribution, the thermal constants of glass and mold and the working conditions prevailing in the preparation of glass objects is communicated. Special cases are numerically calculated with the aid of an electronic analogue computer. (Author)

Office of Technical Services

(Materials--Ceramics, TT, v. 5, no. 8)

Brekhovskich, S. M.
SYNTHESIS AND PROPERTIES OF SEVERAL NEW
GLASSES CONTAINING OXIDES OF BISMUTH,
CADMIUM, BARIUM AND LEAD (Synthese und
Eigenschaften einiger Neuer Wismut-, Cadmium-,
Barium- und Bleioxyd- haltiger Gläser). [1960] [17]p.
12 refs.

Order from SLA ml\$2.40, ph\$3.30 61-10513

Trans. of Glastechnische Berichte (West Germany)
1959, v. 32, No. 11, p. 437-442.

This study deals with results of investigations of
glasses of the $\text{Bi}_2\text{O}_3\text{-PbO-SiO}_2$ system, and the
remarkable possibility of obtaining glasses having a
density of approximately 8 grams per cubic centi-
meter in this system is discussed. (Author)

(Materials--Ceramics, TT, v. 3, no. 8)

61-10513

1. Glass--Materials
1. Brekhovskich, S. M.

151460

Office of Technical Services

Wargin, W. W. and Karapetjan, G. O.
ABSORPTION SPECTRA AND LUMINESCENCE OF
Ce-CONTAINING GLASSES. 13p. (11 figs. omitted)
22 refs.

Order from SLA \$1.60

62-14243

Trans. of Glastechnische Berichte (West Germany)
1959, v. 32, no. 11, p. 443-450.

DESCRIPTORS: *Glass, *Luminescence, Spectrographic
analysis, *Phosphorescent materials, *Cerium, Phos-
phates, Silicates, Borates, Crystals, *Absorption
spectra.

The influence of glass composition, melting conditions
and Ce-concentration on the absorption spectra, fluores-
cence and phosphorescence of Ce-glasses was studied.
Specially pure raw materials were used in the batch.
The absorption was measured on test pieces 0.1-0.5 mm
(Materials—Ceramics, TT, v. 9, no. 4) (over)

62-14243

I. Wargin, W. W.
II. Karapetjan, G. O.

Office of Technical Services

Influence of the Chemical Composition of
Glass on the Adhesion of Polymers, by M. S.
Aslanowa, 10 pp.

GERMAN, per, Glastech Berichte, Vol XXXII,
No 11, 1959, pp 459-463.

ATS-87141G

ATS-716-GJ

203,544

Sci

Jul 62

Vol 4, No 12

62-18131

Porai-Koshits, E. A.
THE SUBMICROSCOPIC STRUCTURE OF SEVERAL
COMPLEX GLASSES (Submikroskopische Struktur
einiger Komplexer Gläser). [1962] [33]p. (foreign
text included) 56 refs.
Order from SLA \$3.60

62-18131

Trans. of Glastechnische Berichte (West Germany)
1959, v. 32, no. 11, p. 450-459.

DESCRIPTORS: *Glass, Microstructure, *Porous glass,
Heat treatment, Particles, Light, Reflection, Sodium
compounds, Boron compounds, Silicates, Microanalysis.

A long discussion between the representatives of the
"Crystallite" theory and those of the "network" theory
led to the concept of the "Polymeric Crystallite" struc-
ture of single component glasses. The problem of the
physical order in single component glasses was replaced
by the problem of the chemical order in complex glasses.
(Materials--Ceramics, TT, v. 9, no. 3) (over)

1. Title: Vycor
I. Porai-Koshits, E. A.

Office of Technical Services

Special Forms of Glass Melting Furnaces, by
H. Wickert.

GERMAN, per, Glastechnische Berichte,
Vol XXXIII, No 5, 1959, pp 189-197.

CSIRO

Sci - Engr
Oct 61.

171, 352

~~171~~

Schumacher, Leo and Schwiete, Hans-Ernst.
CONTRIBUTION TO THE STUDY OF ALKALI AT-
TACK ON FIREPOLISHED GLASS SURFACES
(Beitrag zum Laugenangriff auf Feuerpolierte
Glasoberflächen). [1962] [23]p. (foreign text included)
10 refs.

Order from SLA \$2.60

62-14490

Trans. of Glastechnische Berichte (West Germany)
1960, v. 33, no. 1, p. 1-7.

DESCRIPTORS: *Glass, *Surfaces, Gravimetric
analysis, Sodium compounds, Hydroxides, Corrosion,
Reagents.

These studies are concerned with the alkali attack on
glass surfaces. This is carried out by weighing the
test samples periodically and observing by the micro-
scope. The microscopic studies confirm the assump-
tion that the appearance of alkali attack closely re-
(Materials--Ceramics, TT, v. 8, no. 4) (over)

62-14490

I. Schumacher, L.
II. Schwiete, H.-E.

Office of Technical Services

Jagdt, Reinhard.

INVESTIGATIONS OF RELAXATION PHENOMENA
IN ALKALI-SILICATE GLASSES (Untersuchungen
von Relaxationsercheinungen an Alkali-Silikat-
Gläsern). Extract from thesis, Friedrich Schiller U.,
1958. [1961] [30]p. 27 refs.
Order from SLA ml\$2.60, ph\$4.80 61-10696

Trans. of Glasstechnische Berichte (West Germany)
1960, v. 33, no. 1, p. 10-19.

Measurements are made of the temperature depend-
ence of the internal friction and of the elastic modulus
of alkali-silicate glasses at temperatures between
-180°C. and the point of transformation. The simple
alkali silicates show two pronounced maxima of
damping, whereas the mixed alkali silicates show
only one clear maximum, which, however, is
enormously raised. Level and temperature position
of the maxima depend on the alkali content. The
course of the elastic modulus is likewise determined
by the alkali concentration of the glasses.
(Materials--Ceramics, TT, v. 3, no. 9)

61-10696

1. Glass--Temperature factors
 2. Glass--Viscosity
 3. Glass--Internal friction
- I. Jagdt, R.
II. Friedrich Schiller U.
(East Germany)

151824

Office of Technical Services

Krochmann, Juergen.
THE PHOTOMETRIC DESIGNATION AND CLASSIFI-
CATION OF MATERIALS. [1962] 17p. 15 refs.
Order from SLA \$1.60 62-14233

Trans. of Glastechnische Berichte (West Germany)
1960, v. 33, no. 1, p. 20-24.

DESCRIPTORS: Construction, *Materials, Classifica-
tion, *Photometers.

(Materials, TT, v. 8, no. 3)

62-14233

I. Krochmann, J.

Office of Technical Services

62-16135

1. Banerjee, B. K.

Banerjee, Bhupati Kumar.
THE STUDY OF IRON CONTAINING GLASSES USING
X-RAYS (Untersuchung Eisenhaltiger Gläser mit
Röntgenstrahlen). [1962] [9]p. (foreign text included)
9 refs.

Order from SLA \$1.10

62-16135

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1960, v. 33, no. 2, p. 45-47.

DESCRIPTORS: *Glass, *Iron, X-ray diffraction analy-
sis, Alkali metal compounds, Borates, Microstructure.

Several interesting results from a study of iron con-
taining glasses using X-ray diffraction photographs are
given. Studied were the alkali borate glasses and devit-
rified test samples. The X-ray study could give no
proof for the assumption that, in addition to the various
states possible of the iron in the glass, colloidal iron
(Materials--Ceramics, TT, v. 9, no. 1) (over)

Office of Technical Services

DENSITY CHANGE OF LEAD GLASS THROUGH
HEAT TREATMENT [Dichteänderung von Bleiglas
durch Wärmebehandlung]. [1961] [20] p. (21 refs.
omitted).

Order from SLA m\$2.40, ph\$3.30 61-10695

Trans. of Glasstechnische Berichte (West Germany)
1960, v. 33 [no. 2] p. 47-52.

Glass of composition 57% SiO₂, 30% PbO, 8% K₂O,
4% Na₂O, and 1% R₂O₃ was subjected to heat treatment
and the volume changes were recorded. Results showed
that the change in volume of glass was based on transi-
tions from one energy level to another in the glass
structure by the addition of sufficient activation energy,
e.g., an increase of thermic motion.

(Materials--Ceramics, TT, v. 5, no. 11)

1. Glass--Temperature factors
2. Glass--Physical properties
1. Kishil, T.

158915

Office of Technical Services

Polishing of Glass, by E. Bruche, K. Peter.

GERMAN, par, Glastechnische Berichte, 1960,
pp 37-45.

CSIRO

Sci - Engr
Oct 61

171, 626

SLA - 62-14232

Infrared Investigations of Vitreous and
Crystalline Specimens in the $\text{KNO}_3\text{-Ca(NO}_3)_2$
System, by O. Borgen, K. Grjotheim, S. Urnes,
8 pp.

GERMAN, per, Glastechnische Berichte, Vol XXXIII,
No 2, 1960, pp 52-55.

SLA 60-18163

196,884

Sci

May 62

Properties of Fireclay Tank Blocks, by U. Ehrcke.
EUROPEAN, per, Glastechnische Berichte, Vol 33,
1960, pp 73-86.
NTC-71-16203-11B

Jan 72

<p>Steinhoff, E[douard]. CORROSION OF FIREBRICKS THROUGH REDUC- TION OF SILICA [Über die Zerstörung Feuerfester Steinedurch Reduktion der Kieselsäure]. Lecture at HVG-Discussion on Fireproof Building Material in the Glass Industry, Frankfurt, a. M., 23 Oct 59. [1960] [34]p. 7 refs. Order from SLA ml\$3.00, ph\$6.50</p>	<p>61-10694</p> <p>I. Brick--Corrosion 1. Steinhoff, E. II. Title: HVG-Discussion...</p>
<p>Trans. of Glasstechnische Berichte (West Germany) 1960] v. 33, no. 3 [p. 86-93].</p>	<p>Office of Technical Services</p>
<p>(Materials--Refractories, TT, v. 5, no. 9)</p>	

Konopicky, Kamillo and Routschka, Gerald.
AN INVESTIGATION ON THE BEHAVIOR OF
DIFFERENT QUALITIES OF REFRACTORY BRICK
IN THE ARCH OF A SODIUM SILICATE TANK
(Untersuchung des Verhaltens Verschiedener
Steinqualitäten im Gewölbe einer Wasserglaswanne).
[Paper presented] at the HVG Colloquium on Refractory
Materials in the Glass Industry, Frankfurt a. M.,
23 Oct 59. [28p] 6refs
Order from SLA \$2.60

TT-64-16593

Trans. of Glastech[nische] Ber[ichte] (West Germany)
1960, v. 33, no. 3, p. 93-101.

(Materials--Refractories, TT, v. 12, no. 3)

TT-64-16593

I. Konopicky, K.
II. Routschka, G.
III. Title: HVG Colloquium...

Office of Technical Services

The Physical and Chemical Processes Involved in
the Leaching of Glass Surfaces by Water, by
L. Zagar, A. Schillmoeller, 16 pp.

GERMAN, per, Glastechnische Berichte, Vol XXXIII,
No 4, 1960, pp 109-116. 9080941

SLA TT-64-140471 (28 pp)
AERE Tr-867
Harwell

170,201

Sci - Chem
Oct 61

Löffler, Johannes.

INFLUENCE OF DEVITRIFICATION ON THE
HOMOGENEITY OF FOURCAULT GLASS. 25 July 60.
5p. (10 figs. omitted) 5 refs.
Order from SLA \$1.10

62-14217

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1960, v. 33, no. 4, p. 117-120.

DESCRIPTORS: *Glass, Production, Drawing
(Machine processing), Crystals, Crystallization.

(Materials--Ceramics, TT, v. 8, no. 9)

62-14217

1. Title: Fourcault machines
1. Löffler, J.

Office of Technical Services

Trier, Wolfgang.
PHOTOGRAPHING FLAMES (Fotografieren von
Flammen). Enlarged Version of Lecture at Symposium
on Glass Technology (no. 33) Hamburg, 17 Mar 59.
[1961] [17]p. 3 refs.
Order from SLA mif\$2.40, ph\$3.30 61-10693

Trans. of Glastechnische Berichte (West Germany)
1960, v. 33, no. 4, p. 127-132.

Flames in glass furnaces can be photographed with
relatively simple aids. When working rapidly it is
sufficient to have a protective screen for the camera.
Color films produce more contrasty pictures than
black-and-white films, especially when a light blue
filter is used. The exposure times ought to be as brief
as possible. Rapidly streaming flames, such as oil
flames, require exposures of 1/1000 second and less
in order to prevent blurring due to movement. The
lens opening should be selected in accordance with the
nature and the brightness of the flame. (Author)
(Materials--Ceramics, TT, v. 5, no. 10)

- 61-10693
1. Flames--Photographic
analysis
 2. Glass--Production
- I. Trier, W.
 - II. Title: Symposium...

101606

Office of Technical Services

<p>Skalla, Norbert. PROPERTIES AND BEHAVIOR OF BASIC CHECKER BRICK IN GLASS FURNACES (Über Eigenschaften und Verhalten Basischer Gittersteine in Glasöfen). Lecture at Conference on Refractory Building Materials in the Glass Industry, Frankfurt, a.M., 23 Oct 59. [1961] [17]p. 25 refs. Order from SLA ml\$2.40, ph\$3.30 61-10692</p> <p>Trans. of Glasstechnische Berichte (West Germany) 1960, v. 35 [no. 5] p. 169-173.</p> <p>(Materials--Refractories, TT, v. 5, no. 9)</p>	<p>61-10692</p> <p>I. Brick--Properties I. Skalla, N. II. Title: Conference...</p> <p>151822</p> <p>Office of Technical Services</p>
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On the Behavior of Magnesite Brick Which are Low
in Iron Content, in the Checker Chambers of
Regenerative Glass Melting Furnaces, by W. Baumgart.
EUROPEAN, per, Glastechnische Berichte, Vol 33,
1960, pp 173-180.

NTC-71-16238-11B

INSDOC/T 4545

Jan 72

Influence of Bank Block Cooling on the Temperature
Inside the Blocks. Measuring Results, by
R. Meister.
EUROPEAN, per, Glastechnische Berichte, Vol 33,
1960, pp 182-186.
NTC-71-16242-11B

Jan 72

Hegemann, Friedrich and Osterried, Otto.
THE DETERMINATION OF SODIUM AND POTASSIUM IN GLASSES WITH THE ZEISS FILTER FLAME PHOTOMETER (Die Bestimmung von Natrium und Kalium in Gläsern mit dem Zeiss'schen Filterflammenphotometer). [1961] [19]p. (7 tables omitted) 19 refs.
Order from SLA ml\$2.40, ph\$3.30 61-10691

Trans. of Glastechnische Berichte (West Germany) 1960, v. 33, no. 6, p. 201-206.

A procedure is given for the use of the PF 5 flame photometer in the determination of sodium and potassium in glasses with a propane-air flame as source of excitation. With the aid of this apparatus, the sodium and potassium contents can be ascertained rapidly and with sufficient accuracy, even when the concentration of interfering ions is not reproduced in the calibration solutions. (Authors)

(Materials--Ceramics, TT. v. 5, no. 9)

61-10691

1. Sodium--Determination
 2. Potassium--Determination
 3. Glass--Chemical analysis
 4. Photometers--Applications
- I. Hegemann, F.
II. Osterried, O.

151821

Office of Technical Services

62-14216

Lengyel, Bela, Dobos, Sandor, and Till, Ferenc.
METHOD OF DETERMINING THE RATE OF
SOLUTION OF GLASSES BY USING A FLAME
PHOTOMETER OF HIGH SENSITIVITY. 26 Aug 60,
13p. (12 figs. omitted) 28 refs.
Order from SLA \$1.60

62-14216

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1960, v. 33, no. 6, p. 206-213.

DESCRIPTORS: *Glass, Solubility, Determination,
*Flames, *Spectrophotometers, Photometers.

(Materials--Ceramics, TT, v. 8, no. 4)

I. Lengyel, B.
II. Dobos, S.
III. Till, F.

Office of Technical Services

TT-64-16530

Prinz, Walter.
ON THE USE OF NEOPHAN GLASS TO IMPROVE
THE ACCURACY OF THE VOLHARD METHOD OF
TITRATING SILVER (Einsatz von Neophanglasbrillen
zur Verbesserung der Genauigkeit der Volhardschen
Silbertitrationsmethode). [12p] (foreign text included)

5 refs

Order from SLA \$1.60

TT-64-16530

Trans. of Glastechnische Ber[ichte] (West Germany)
1960, v. 33, no. 6, p. 224-227.

L. Prinz, W.

(Chemistry--Analytical, TT, v. 12, no. 4)

Office of Technical Services

Arrangement for Measuring High Viscosities of
Glasses with Great Deformation Under Constant Stress,
by H.J. Oel.
GERMAN, per, Glastechnische Berichte, Vol 33, No 6,
1960, pp 219-224.
NTC 69-11066-11B

Sci/Chem *MAT*
July 69

387-358

The Structural Pattern of Glass in the Course of
Its Development, by K. Kuehne.
GERMAN, per, Glastechnische Berichte, Vol 33, No 7,
1960, pp 241-245.
NTC 69-11065-11B

Sci/Chem *MAT*
July 69

387-357

Kröger, Carl and Stratmann, Jürgen.
THE DETERMINATION BY DIFFERENTIAL THERMAL ANALYSIS OF RESIDUAL AMOUNTS OF QUARTZ IN EXHAUSTED SILICATE BATCHES (Die Differential-thermoanalytische Bestimmung von Restquarzmengen in Abreagierten Silikatgemengen). [1961] [10]p. 11 refs.
Order from SLA ml\$1.80, ph\$1.80 61-10690

Trans. of Glastechnische Berichte (West Germany)
1960, v. 33, no. 7, p. 250-252.

The amounts of residual quartz which remain in disilicate-quartz mixtures are tempered at 850°C were determined with the aid of differential thermal analysis, and the time dependence of the quartz dissolution was compared to the dissolving velocity of the quartz (determined by X-ray methods) in the eutectic disilicate-quartz mixture. At temperatures in excess of the quartz-tridymite reaction, the residual amounts of quartz correspond to the velocity of transformation. (Materials--Ceramics, TT, v. 5, no. 10) (over)

61-10690

1. Quartz--Determination
I. Kröger, C.
II. Stratmann, J.

151605

Office of Technical Services

Herrmann, Horst.

ON THE EFFECT OF THE SHAPE OF SAMPLES,
DIMENSIONS AND COOLING CONDITIONS ON THE
ELASTIC BIREFRINGENCE IN GLASS-TO-METAL
SEALS [Über den Einfluss von Probenform,
Abmessungen und Abkühlungsbedingungen auf die
Spannungsdoppelbrechung in Glass-Metall-Verbindungen].
[1961] [16]p. 12 refs.
Order from SLA mfs2.40, ph53.30 61-10689

Trans. of Glastechnische Berichte (West Germany)
1960, v. 33, no. 7, p. 252-257.

The application of photoelastic measurements to control
the thermal expansion of sealing materials (glass and
metal) is discussed. A few types and shapes of samples
having appropriate properties for conducting such meas-
urements are considered and the different effects on the
elastic birefringence in the glass are examined. Knowl-
edge of these effects allows comparisons between the
measured values obtained on samples of different shape
and size. (Author)
(Materials--Ceramics, TT, v. 5, no. 10)

61-10689

1. Glass--Bonding
2. Metals--Bonding
1. Herrmann, H.

101009

Office of Technical Services

Düsing, Werner.

A NEW CHROMIUM-FREE, PLATEABLE Fe-Ni
ALLOY AS A SEALING ALLOY FOR LEAD GLASS.

9 Sep 60, 6p. (10 figs. omitted) 3 refs.

Order from SLA \$1.10

62-14219

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1960, v. 33, no. 7, p. 257-261.

DESCRIPTORS: *Glass, *Iron alloys, *Nickel alloys,
Plating, Seals, *Electron tubes.

Sealing alloys, free from chromium, capable of being
faultlessly electroplated are used for the glass-metal
envelopes of microwave tubes of soft glass. The new
Fe-Ni-Mn alloy (47/48/5) satisfies these requirements
and its expansion coefficient is closer to that of the
commonly used lead glass than the chromium-free
Fe-Ni alloys used hitherto. (Author)
(Materials--Ceramics, TT, v. 8, no. 10)

62-14219

I. Düsing, W.

Office of Technical Services

61-14727

Löffler, Johannes.
REACTION OF FIRECLAY WITH A LIMITED
AMOUNT OF GLASS MELT (Reaktion von Schamotte
mit einer Begrenzten Menge Glasschmelze). [1961]
[9]p. (foreign text included) 4 refs.
Order from SLA \$1.10

61-14727

Trans. of Glastechnische Berichte (West Germany)
1960, v. 33, no. 8, p. 281-283.

DESCRIPTORS: *Brick, *Glass, Chemical reactions.

When a fireclay body reacts with a limited amount of
stagnant glass, the glass is locally impoverished in
alkali, and the striac originating there exhibit the char-
acteristic aluminous layers as well as those im-
poorished in alkali, i.e. enriched in SiO_2 . This can
be demonstrated in the glass from a cavity in a floatcr.
The threads from such a hollow space normally have an
aluminous core and an envelope of which the SiO_2 con-
tent is increased by 0.5 to 1%. (Author)
(Materials--Ceramics, TT, v. 6, no. 1)

1. Title: Fireclay
1. Löffler, J.

161749

Office of Technical Services

Eyber, Gerhard.
THERMODYNAMIC OBSERVATIONS ON CORROSION
PROCESSES IN GLASS TANKS (Thermodynamische
Betrachtung über Korrosionsvorgänge in
Glaschmelzöfen). [Paper] presented to the Glass
Technology Convention (no. 33) Hamburg, 17 Mar 59.
[Sp] (foreign text included) 5 refs
Order from SLA \$1.10

TT-64-16526

Trans. of Glastechnische Berichte (West Germany)
1960, v. 33, no. 8, p. 283-285.

(Materials--Ceramics, TT, v. 12, no. 4)

TT-64-16526

I. Eyber, G.
II. Title: Glass ...

Office of Technical Services

Bornett, Joachim.

THE MEDICAL SIGNIFICANCE OF HEAT RADIATION IN GLASS AND IRON PLANTS. 30 Nov 60
149p. 40 pers.

Order from SLA \$1.60

62-14220

Trans. of Glastechnische [Berichte] (West Germany)
1960, v. 33, no. 3, p. 296-303

DESCRIPTORS: *Thermal radiation, Foundries,
Remeries, *Iron, *Glass, *Industrial medicine.

In steel and glass plants, the heat radiation and the micro atmospheric conditions were determined at the work areas. Blast furnace smelters and ingot shear workers were more exposed to rays than hollow and rod glass makers; these in turn are exposed more strongly than those who work in the open under the action of the sun. Clinical findings showed that working in heat for many years produced in many cases (Biological Sciences--Medical Specialties,
TT, v. 3, no. 9)

(over)

62-14220

1. Bornett, J.

Office of Technical Services

61-10558

Deeg, Emil.

A SIMPLE METHOD FOR TESTING INTERNAL STRESSES OCCURRING IN NONTRANSPARENT GLASSES AND PLASTICS (Ein Einfaches Verfahren zur Spannungsprüfung in Undurchsichtigen Gläsern und Kunststoffen). Extract from address by Adolph Dietzel at Symposium on Glass Technology (no. 33) Hamburg, 18 Mar 59. [1961] 15 lp. (foreign text included).

Order from SLA m\$1.80, ph\$1.80 61-10558

Trans. of Glasstechnische Berichte (West Germany) 1960, v. 33, no. 9, p. 331-332.

A description is given of an arrangement of infrared radiators and receivers which is suitable for photoelastic investigations. Stresses in translucent and dark-colored glasses can be rendered visible with the aid of an image converter which is sensitive in the infrared spectral range.

(Materials--Ceramics, TT, v. 5, no. 10)

1. Glass--Stresses
2. Plastics--Stresses
3. Title: Photoelastic method
- I. Deeg, E.
- II. Dietzel, A.
- III. Title: Symposium...

151603

Office of Technical Services

Gellmann, Wilhelm and Tolg, Gunther.
THE DETERMINATION OF THE SULFATE CON-
TENT. Pt. 2 of Contribution to Microsilicate Analysis.
[1961] 17p. (4 tables, 2 figs, 2 footnotes omitted).
Order from SLA m\$2.40, ph\$3.30 61-14469

Trans. of Glastechnische Berichte (West Germany),
1960, v. 33, no. 9, p. 332-338.

After digesting the silicate with hydrofluoric and per-
chloric acids, the sulfate is reduced to H_2S by treat-
ing it with a suitable reducing agent. The H_2S is then
absorbed in a sodium hydroxide solution and deter-
mined by volumetric analysis. This method can be
used in the range from 1 to 1000 μg SO_3 and, with sam-
ples weighing between 1 and 200 mg, 0.05 to 0.001%
 SO_3 can be detected. The relative standard deviation of
this method is dependent upon the total quantity being
determined and lies between 1 and 3%. (Author)

(Chemistry--Analytical, TT, v. 5, no. 12)

61-14469

1. Sulfates--Determination
2. Glass-Chemical analysis
1. Gellmann, W.
- II. Tolg, G.
- III. Title: Contribution...

151879

Office of Technical Services

61-10687

1. Glass--Viscosity
1. Knapp, O.

151820

Office of Technical Services

Knapp, Oscar.
CALCULATION OF THE VISCOSITY OF ALKALI
AND ALKALI-LIME GLASSES FROM THEIR COM-
POSITION [Berechnung der Zähigkeit von Alkali- und
Alkalikalkgläsern aus ihrer Zusammensetzung].
[1961] [5]p. 2 refs.

Order from SLA m\$1.80, pt\$1.80 61-10687

Trans. of Glastechnische Berichte (West Germany)
1960, v. 33, no. 9, p. 338-339.
Pub. in greater detail in Hungarian in Építőanyag,
(Hungary) 1959, v. 11, p. 393-396.

(Materials--Ceramics, TT, v. 5, no. 9)

Konopicky, Kamillo and Wohlleben, Karl.
STUDIES ON THE TEMPERATURE DEPENDENCE OF
THE TORSIONAL MODULUS OF FIRECLAY BRICKS
(Untersuchungen zum Gang des Torsionsmoduls von
Schamottesteinen mit der Temperatur). [1961] [20]p.
32 refs.
Order from SLA m\$2.40, ph\$3.30

61-10686

Trans. of Glastechnische Berichte (West Germany)
1960, v. 33, no. 10, p. 357-363.

The temperature dependence of such elastic constants as
the elastic and torsional moduli has been studied for
fireclay glass-tank bricks of different contents of alu-
mina. The measurements obtained by torsional, bend-
ing, and dynamic methods and tests are compared with
the aim of establishing whether the size of the test piece
affects the results of measurement and what effect the
amount of load has on the course of the torsional modu-
lus as a function of the temperature. Even at room tem-
perature the static method of measurement produces
(Mat. des Refractories, TT, v. 5, no. 10) (over)

61-10686

1. Bricks--Temperature factors
- I. Konopicky, K.
- II. Wohlleben, K.

151602

Office of Technical Services

Theoretical Investigation of the Thermal Stresses
in Tank Blocks During Tempering, by G. Sonntag.
EUROPEAN, per, Glastechnische Berichte, Vol 33,
1960, pp 363-369.
NTC-71-16204-11B

Jan 72

Fischer, Joseph and Kropp, Rudolf.
FLAME SPECTROMETRY AS A PROCESS IN MOD-
ERN CHEMICAL ANALYSIS. 13 Dec 60 [16]p. (Signs
omitted) 11 refs.
Order from SLA \$1.60

62-14234

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1960, v. 33, no. 10, p. 380-387.

DESCRIPTORS: *Chemical analysis, *Flames, Alkali
earths, Chemical elements, Ionization, Spectro-
graphic data.

(Chemistry--Analytical, TT, v. 8, no. 9)

62-14234

I. Fischer, J.
II. Kropp, R.

Office of Technical Services

62-14240

Frier, Wolfgang.
GLASS FLOWS: THEIR SIGNIFICANCE AND MEAS-
UREMENT. 26 Jan 61, 18p. (14 figs. omitted) 22 refs.
Order from SLA \$1.60 62-J 4240

L. Frier, W.

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1960, v. 33, no. 11, p. 401-411.

DESCRIPTORS: *Glass, Melting, Tanks, Measure-
ment, *Flowmeters.

(Materials--Ceramics, TT, v. 8, no. 4)

Office of Technical Services

83 2

Becker, Hans.
A NEW METHOD OF INVESTIGATING FLOW IN
SHEET-GLASS TANKS (Eine Neue Methode zur
Erforschung der Strömung in Flachglaswanne). [1961]
[18]p. (foreign text included) 6 refs.
Order from SLA \$1.60 61-14728

Trans. of Glastechnische Berichte (West Germany)
1960, v. 33, no. 11, p. 411-416.

DESCRIPTORS: *Glass. Fluid flow. Measurement.
Cerium. Fluorescence.

Glass containing cerium was added to the metal in a
Fourcault tank at specific points and in a specific form.
Because of the cerium fluorescence, it is possible to
establish the position of the glass containing cerium in
the glass sheet and to draw conclusions in regard to the
currents in the tank. In the first example, it is de-
scribed how a fault in a tank brick causing bubbles in
the glass can be demonstrated. In the second example,
(Materials--Ceramics, TT, v. 6, no. 1) (over)

61-14728

I. Becker, H.

161750

Office of Technical Services

63-14066

I. Unger, L.

Unger, Leopold.

THE USE OF RADIOACTIVE ISOTOPE FOR FLOW INVESTIGATIONS IN GLASS MELTING TROUGHS (Anwendung Radioaktiver Isotope zu Strömungsuntersuchungen in Glasschmelzwannen). Lecture at Glastechnical Convention (no. 34) Berlin, 4 May 60. [1963] [17]p. (foreign text included) 5 refs. Order from SLA \$1. 60 63-14066

Trans. of Glastechnische Ber[ichte] (West Germany) 1960, v. 33, no. 11, p. 416-421.

DESCRIPTORS: *Glass, *Radioactive isotopes, Melting, Fluid flow, Test equipment, Industrial equipment.

Flow investigations on glass melting troughs with radioactive substances are described. The advantages of this procedure consist in that the demonstration of the radioactive material is very sensitive, the measure- (Materials--Ceramics, TT, v. 10, no. 5) (over)

Office of Technical Services

TT-63-20366

Jebsen-Marwedel, Hans.
MATERIAL TRANSPORT DUE TO FORMATION OF
NEW BOUNDARY SURFACES AND DOMAINS ON THE
SURFACE OF VISCOUS MEDIA (MODEL LIQUID:
LACQUER) (Materialtransport über die Neubildung von
Grenzflächen und Parzellen an der Oberfläche
Zähflüssiger Medien). Modified and shortened version
of a lecture from Glass Technology Meeting (no. 34)
Berlin, 3 May 60. [1963] [19p] (foreign text included)
16 refs
Order from SLA \$1.60

TT-63-20366

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1960, v. 33, no. 11, p. 421-423.

DESCRIPTORS: *Glass, Surface properties, Models
(Simulations), *Fluid flow, Shear stresses,
Photographic analysis.

(Materials--Ceramics, TT, v. 11, no. 3) (over)

- I. Title: Flow visualization
- I. Jebsen-Marwedel, H.
- II. Title: Glass...

Office of Technical Services

It was shown that the schlieren-eddy phenomenon occurs in all pairs of liquids which exhibit dynactive behavior. Therefore in principle, observations made on readily available materials can be applied to processes taking place in the difficultly accessible glass melt. Spontaneous boundary deformations and cell formation observed on layers of lacquer help to shape our views on material exchange problems, material transport, and cell formation on the surface of the melt. The details can be recorded photographically by adding pigments to the partners. The arrangement of layers near the surface is controlled primarily through increased boundary surfaces in the form of flow breaches caused by shear stresses (and secondarily through diffusion). (Author)

PE.

TT-63-20366

Giegerich, Wilhelm.
THE TECHNOLOGICAL BASIS OF BOTTLE MANU-
FACTURING WITH FULLY AUTOMATIC MACHINES
(Über Technische Grundlagen der Vollautomatischen
Flaschenherstellung). [1961] [35]p. 11 refs.
Order from SLA \$3.60 61-14729

Trans. of Glastechnische Berichte (West Germany)
1960, v. 33, no. 12, p. 441-449.

DESCRIPTORS: *Containers, Manufacturing methods,
*Glass, Molding, Machines, Automatic.

The succession of the individual operations of produc-
tion and the cooling of the glass during shaping are de-
scribed. Use is made of simple mathematical relations.
Accurate time registrations of the individual operations
and many calorimetric measurements of the heat con-
tents in the individual production stages in a large num-
ber of fully automatic bottle machines can be so ar-
ranged and compared as to supply industrial factors and
(Materials--Ceramics, TT, v. 6, no. 1) .(over)

61-14729

I. Giegerich, W.

161751

Office of Technical Services

Trier, Wolfgang.
TEMPERATURE DISTRIBUTION AND HEAT FLOW
IN GLASS IN THE GATHERING MOLD OF HOLLOW
GLASS MACHINES. 28 Feb 61, 12p. (12 figs. omitted)
9 refs.

Order from SLA \$1.60

62-14222

Trans. of Glastechnische Berichte (West Germany)
1960, v. 33, no. 12, p. 449-456.

DESCRIPTORS: *Glass, Cooling, Heat transfer,
Viscosity, Molding, Machines.

By means of a novel puncture method the cooling of a
45 mm thick glass cylinder at about 1100°C in a
modified gathering mold has been studied under condi-
tions comparable to those existing in the machine.
The viscosity distribution was measured in green
glass and white glass and the temperature distribution
(Materials--Ceramics, TT, v. 8, no. 10) (over)

62-14222

I. Trier, W.

Office of Technical Services

Klemm, Werner and Vollmann, Harold.
ELECTRON MICROSCOPE STUDIES ON THE STRUCTURE OF GLASS-CRYSTALLINE MATERIALS (Elektronenmikroskopische Untersuchungen über den Aufbau Glasig-Kristalliner Massen). [1963] [25p] (foreign text included) 11 refs
Order from SLA \$2.60

TT-64-14074

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1961, v. 24, no. 3, p. 152-159.

(Materials--Ceramics, TT, v. 12, no. 1)

TT-64-14074

I. Klemm, H.
II. Vollmann, H.

Office of Technical Services

The Behavior of Silica Bricks in Glass Tank Furnaces
for Soda-Lime Glass, by K. Konopicky, I. Patzak.
GERMAN, per, Glastechnische Berichte, Vol 34, No 1,
1961, pp 1-15.
NTC 69-11117-11B

Sci/Nat
July 69

387-362

Several Studies of Silica Bricks From the Crowns
of Glass Tanks at Different Working Temperatures,
by H. F. Reich.
EUROPEAN, per, Glastechnische Berichte, Vol 34, 1961,
pp 15-27.
NTC-71-16237-11B

Jan 72

On the Glass Phase in Fusion Cast Tank Blocks, by
H. E. Schwiete, 24 p.
GERMAN, per, Glastechnische Berichte, Vol XXXIV,
No 1, 1961, pp 30-37.
SLA TT 66-10674

Sci-M&M
Jun 66

304,127

Dietzel, A. and Coenen, M.
TRIVALENT COBALT IN GLASSES WITH HIGH
ALKALI CONTENT. [1963]. BGIRA/Tr/63/11;
no. 544.
Order from BGIRA BGIRA-544

Trans. of Glastechnische Berichte (West Germany)
1961, v. 34, no. 2, p. 49-55.

DESCRIPTORS: *Cobalt, *Valence, *Glass, *Alkali metal compounds, Alkali metals.

(Materials--Ceramic , IT, v. 10, no. 8)

63-17860

- I. Dietzel, A.
- II. Coenen, M.
- III. BGRA/Tr/63/11
- IV. BGRA-544
- V. British Glass Industry
Research Association

Office of Technical Services

The Indentation Microhardness of Some Silicate Glasses
and Its Atomic Interpretation, by A. Petzold,
F.G. Wihsmann.
GERMAN, per, Glastechnische Berichte, Vol 34, No 2,
1961, pp 56-71.
NTC 69-11093-11B

Sci/~~Chem~~
July 69

387-360

TT-64-14048

Wagenfeld, Wilhelm.
FACTORY GOODS (Fabrikwaren). [1963] [12p]
(foreign text included)
Order from SLA \$1.60

TT-64-14048

Trans. of Glasstechnische Ber[ichte] (West Germany)
1961, v. 34, no. 2, p. 72-74.

I. Wagenfeld, W.

(Social Sciences, TT, v. 11, no. 12)

Office of Technical Services

TT-64-10547

Schuster, Erich and Reilmayer, Franz.
THE CHANGE IN THE REFRACTIVE INDEX OF
GLASSES PRODUCED BY UNIDIMENSIONAL COM-
PRESSIVE OR TENSILE STRESSES (Die Änderung
der Lichtbrechung von Gläsern bei Eindimensionaler
Druck- bzw. Zug-Belastung).
[1964] [13p] (foreign text included) 3 refs
Order from SLA \$1.60

TT-64-10547

Trans. of Glaser[ische] Ber[ichte] (West Germany)
1961, v. 34, no. 5, p. 130-133

I. Schuster, E.
II. Reilmayer, F.

(Physica--Optics, TT, v. 12, no. 2)

Office of Technical Services

Studies on Glass Surfaces Using Radioactive
Phosphorus, by Ernst Baier, Peter Hausmann,
21 pp.

GERMAN, per, Glastechnische Berichte,
Vol CCCIV, No 3, 1961, pp 146-152.

SLA 61-20843

Sci
Mar 62
Vol VII, No 3

188, 071

REC (SC-T-722462) DETERMINATION OF THE WATER
CONTENT OF GLASSES BY NUCLEAR MAGNETIC RESONANCE
AND COMPARISON OF THE RESULTS WITH MEASUREMENTS
OF THE INFRARED OH BANDS. Meyer, Friedrich; Spalhoff,
Werner. Translated for Sandia Labs., Albuquerque, N. Mex.,
from Glastech. Ber.; 34: 184-91 (1961). 23p. Dep. NTIS.

chemistry (analytical); translations 07

MN-4 P NSA

Rapid Indicator Radiation Pyrometer for Temperature
Measurement Between 300 and 900° C., by N. Neuroth.
EUROPEAN, per, Glastechnische Berichte, Vol 34,
1961, pp 197-200.
NTC-71-16240-14B

Jan 72

Boneff, Stoyan and Schwiete, Hans-Ernest.
ON THE FORMATION OF CURLY SHAVINGS ON
SCRATCHING GLASS SURFACES (Zur Bildung von
Spanlocken beim Ritzen von Glasoberflächen). [1963]
[10p] (foreign text included) 3 refs
Order from SLA \$1.10

TT-64-14042

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1961, v. 34, no. 4, p. 216-219.

(Materials--Ceramics, TT, v. 11, no. 12)

TT-64-14042

- I. Boneff, S.
- II. Schwiete, H.-E.

Office of Technical Services

The Effect of Traces of Metals on the Hot Leaching
of Silicate Glasses, by E. Wiegel.
GERMAN, per, Glastechnische Berichte, Vol 34, No 5,
1961, pp 259-268.
NTC 69-11129-11B

Sci/Mat
July 69

387-369

Vapor and Decomposition Pressures of
Several of the Alkali Compounds Used
in Glasses, by C. Kroeger, J. Stratmann, 35 p.
GERMAN, per, Glastechnische Berichte,
Vol 34, No 6, 1961, pp 311-320.
SIA TT-66-10680

Sci-M&M
Jul 66

306,005

Sand-quality Requirements in the Manufacture of Plate
Glass, by H. Geulen.
GERMAN, per, Glastechnische Berichte, Vol 34, No 7,
1961, pp 345-348.
NTC 69-11128-11B

Sci/Mat
July 69

387-368

Selection of Raw Materials, Batch Preparation and
Transport in a Pot Furnace Factory, by A. Schillmoeller.
GERMAN, per, Glastechnische Berichte, Vol 34, No 7,
1961, pp 348-353.
NTC 69-11127-11B

Sci/Mat
July 69

387-367

TT-64-14053

Schulze, Karl Heinz.
TECHNICAL WEIGHING PROBLEMS IN GLASS BATCH-
ING PLANTS (Wiegetechnische Probleme bei Glasgem-
geanlagen). [1963] [25p] (foreign text included)
Order from SLA \$2.60

TT-64-14053

Trans. of Glastechn[ische] Ber[ichte] (West Germany)
1961, v. 34, no. 7, p. 363-369.

I. Schulze, K. H.

Materials--Ceramics, TT, v. 12, no. 1)

Office of Technical Services

Thermal and Mechanical Studies of Alkali-Borate
Glasses, by K.-H. Karsch, E. Jenckel.
GERMAN, per, Glastechnische Berichte, Vol 34, No 8,
1961, pp 397-408.
HTC 69-11126-11B

Sci/Mat

Water Release by Sodium Silicate Glass, by
S. Garbe.
GERMAN, per, Glastechnische Berichte, Vol 34,
1961, pp 413-417.
Chem Trans Sv 2694

319,988

Sci - Chemistry
Mar 67

The Development of the Glass-Melting Tank, by
R. Guenther.
GERMAN, per, Glastechnische Berichte, Vol 34, No 10,
1961, pp 471-482.
NTC 69-11121-11B

Sci/Mat
July 69

387-365

Experiments to Eliminate States of Stress in Glass
with the Aid of Ultrasonics, by H.-U. Borgstedt.
GERMAN, per, Glastechnische Berichte, Vol 34, No 11,
1961, pp 529-534.
NTC 69-11118-11B

Sci/Mat
July 69

387-364

Glass Working by Impact Lapping at Ultrasonic
Frequency, by D. Blanck, 9 pp.

GERMAN, par, Glastechnische Berichte, Vol XXXIV,
No 11, 1961, pp 534-44. (9208239)

AEC-SCL-Tr-470

Sci - Phys

Jun 63

234,294

Formation of Stresses in Plastic Resins with
Embedded Glass Fibers, by A. Matting, H.
Haferkamp.

GERMAN, per, Glastechnische Berichte, Vol 34,
No 11, 1961, pp. 547-8.
FTC 69-11120-111

Sci-Mat
July 69

388,405

On the Effect of Permanent Technical Stresses on a
Glass Band, by P. Bayersdorfer.
GERMAN, per, Glastechnische Berichte, Vol 34, No 11,
1961, pp 548-549.
NTC 69-11119-11B

Sci/Mat
July 69

387-363